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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/843,703	04/30/2001	Kenro Hama	018775-826	9401

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EXAMINER

MENBERU, BENIYAM

ART UNIT PAPER NUMBER

2626

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/843,703

Applicant(s)

HAMA ET AL.

Examiner

Beniyam Menberu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/13/01</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Specification***

1. The disclosure is objected to because of the following informalities:

On page 9, line 23 does not make grammatical sense.

On page 10, line 20, the term "dolor" is misspelled.

On page 11, line 4-5, the flow should return to S1041 after "NO" at step S1045.

On page 11, line 18, the phrase "between the maxima of R, G, and G" should be "between the maxima of R, G, and B".

On page 14, line 22, "1046" should be "S1046".

On page 15, equation (3), all 3 equations do not seem to be valid because for example since $G - B_{\min}$ is greater than $G - B_{\max}$, $G - B_{\max}$ should be on left side and $G - B_{\min}$ should be on right side of the inequality.

On page 15, line 1, the equation states:

$$R - R_{\min} \leq R_i - G_i \leq R - G_{\max} \text{ however it should be :}$$

$$R - G_{\min} \leq R_i - G_i \leq R - G_{\max}.$$

On page 15, line 9, it states "the flow returns to step S1042" should be "the flow returns to step S1047".

Appropriate correction is required.

Drawings

2. The drawings are objected to because:

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On page 10, line 9-10 and page 14, line 21-22 the specification states that variable "i" is reset to one but in Figure 6 and 8 it is reset to zero.

In Figure 8, the block "DELETE NOISE" is performed if the conditions (S1047) are satisfied, however in the specification on page 15, line 5-7 it states that noise is deleted when the conditions are not satisfied.

In Figure 2, the overall system is labeled "1" but in specification it is labeled "10" on page 5, line 23.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

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3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "220" has been used to designate both a data bus and a scanner controller. Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 3, 5, 6, 8, 9, 11, 14, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6631210 to Mutoh et al in view of U.S. Patent No. 6681040 to Arai.

Regarding claims 1, 5, 8, 11, 14, and 17 Mutoh et al disclose an image processor, method, and program (column 48, lines 63-67) comprising:

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a second decision controller which decides whether differences between color data of the target pixel and those of pixels adjacent thereto exist in second ranges different from the first ranges (column 32, lines 24-32; column 30, lines 25-30; Figure 21, reference 222); and

a color decision controller which decides that the target pixel has a specified color when the first decision controller decides that the color data of the target pixel exist in the first ranges and the second decision controller decides that the differences exist in the second ranges (Figure 21, reference S126, 221, 222, 223; column 32, lines 17-37; 42-46). However Mutoh et al does not disclose a first decision controller, which decides whether input color data of a target pixel exist in first range.

Arai discloses a first decision controller, method and program (column 3, lines 19-23), which decides whether input color data of a target pixel exist in first ranges (column 7, lines 10-15).

Mutoh et al and Arai are combinable because they are in the similar problem area of color detection.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the first decision controller taught by Arai into the system of Mutoh et al to implement an image processor with accurate color detection.

The motivation to combine the reference is clear because in order to accurately detect a specific color, a range of color has to implemented and used to detect an input color data as taught by Arai.

Regarding claims 2, 6, and 9, Mutoh et al in view of Arai teaches all the limitations of claim 1, 5, and 8 respectively. Further Mutoh et al disclose an image processor, method, and program according to claim 1, wherein said second decision controller determines a maximum value among differences of color data between the target pixel and the adjacent pixels thereof and decides whether the maximum value exists in the second ranges (column 32, lines 24-32).

Regarding claim 3, Mutoh et al disclose an image processor according to claim 1, further comprising an edge detector which calculates differences in a plurality of color component data of the color data between the target pixel and the adjacent pixels thereof in a direction and decides a position of an edge based on the differences (column 37, lines 14-28; column 47, lines 42-50).

6. Claims 4, 7, 10, 13, 16, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6631210 to Mutoh et al in view of U.S. Patent No. 6681040 to Arai further in view of U.S. Patent No. 6115494 to Sonoda et al.

Regarding claims 4, 7, 10, 13, 16, and 19, Mutoh et al in view of Arai teach all the limitations of claims 1, 5, 8, 11, 14, and 17 respectively. However, Mutoh et al in view of Arai does not disclose an image processor, program and method, further comprising:
an extraction controller which extracts an element having a predetermined shape based on the decision by said color decision controller; and

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a pattern detector which detects a specified pattern the image data by discriminating whether the elements extracted by said extraction controller have a predetermined relationship between them.

Sonoda et al disclose an image processor, program and method, further comprising:

an extraction controller which extracts an element having a predetermined shape based on the decision by said color decision controller (Figure 5, reference 13a,b; column 10, lines 54-65); and

a pattern detector which detects a specified pattern the image data by discriminating whether the elements extracted by said extraction controller have a predetermined relationship between them (Figure 5, reference 17; column 14, lines 30-44).

Mutoh et al, Arai, Sonoda et al are combinable because they are in the similar problem area of color detection.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the extraction controller and the pattern detector taught by Sonoda et al into the combined system of Mutoh et al and Arai to implement a pattern detection system.

The motivation to combine the reference is clear because for pattern detection it is necessary to implement the system of Sonoda et al in addition to the color detection system of Mutoh et al in view of Arai.

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7. Claims 12, 15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6631210 to Mutoh et al in view of U.S. Patent No. 6681040 to Arai further in view of U.S. Patent No. 6151410 to Kuwata et al.

Regarding claims 12, 15, 18, Mutoh et al in view of Arai teach all the limitations of claims 11, 14, and 17 respectively. However Mutoh et al in view of Arai does not disclose an image processor, method, and program wherein the color data includes a plurality of color component data and said second decision controller calculates differences between the color component data of the target pixel and decides whether the differences exist in the second ranges.

Kuwata et al disclose an image processor, method, and program wherein the color data includes a plurality of color component data and said second decision controller calculates differences between the color component data of the target pixel and decides whether the differences exist in the second ranges (Figure 12, reference S302-S308).

Mutoh et al, Arai, and Kuwata et al are combinable because they are in the similar problem area of color detection.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the color component difference calculation and comparison taught by Kuwata et al with the combined system of Mutoh et al in view of Arai to implement an accurate color/pattern detection system.

The motivation to combine the reference is clear because Kuwata et al teaches that the method of calculating difference between color components can be used for thinning process (column 22, lines 21-23).

Other Prior Art Cited

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5867593 to Fukuda et al disclose an apparatus for separating image regions.

U.S. Patent No. 5940531 to Watanabe et al disclose an apparatus for position detection.

U.S. Patent No. 6697536 to Yamada discloses image scanning apparatus.

U.S. Patent No. 6268930 to Ohta et al disclose color judging system for an output device.

U.S. Patent No. 6049627 to Becker et al disclose a system for adding indicia to an image.

U.S. Patent No. 4884221 to Sugiyama et al disclose an apparatus for color measurement.

U.S. Patent No. 5218555 to Komai et al disclose a method for color difference judgement.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beniyam Menberu whose telephone number is (703) 306-3441. The examiner can normally be reached on 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly Williams can be reached on (703) 305-4863. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is (703) 306-5631. The group receptionist number for TC 2600 is (703) 305-4700.

Patent Examiner

Beniyam Menberu

BM

11/16/2004


KIMBERLY WILLIAMS
SUPERVISORY PATENT EXAMINER